Defining U.S. National Security for the Next Generation

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In the post-Cold War world, the United States is challenged by a broader definition of U.S. national security that must take into account a wide range of factors that will contribute to stability or stimulate conflict in the years ahead. For these reasons, it makes sense today, more than ever, for a national security analyst to be engaged with USAID officers in a conference on global conflict prevention. We need to understand how such factors as demographics, natural resources, the environment, economic growth, globalization, and the quality of governance will challenge governments and the international community and, in some cases, sow the seeds of conflict threatening to U.S. interests.

Global change in the decades ahead will expand the U.S. national security intelligence agenda in both the numbers and complexity of issues we cover. In 15 years, CIA will still be focused on the proliferation of weapons of mass destruction, terrorism, narcotics, and organized crime. But newer issues, such as information operations and threats to our space systems, will command a growing amount of our time. And we will be engaged, even more than today, in covering regional conflicts and developments associated with them: refugee crises, peacekeeping, humanitarian emergencies, environmental problems, global health issues, technological developments, and key economic trends. The fast-moving, broadly distributed threat environment that you hear so much about is here to stay.

The findings of an unclassified study recently published by the National Intelligence Council (NIC) assesses the impact of seven drivers in shaping the world of 2015. The NIC is a group of senior experts who advise the Director of Central Intelligence. The study, *Global Trends 2015*, drew on considerable outside expertise. The drivers highlighted in the study are: demographics, including migration and health; natural resources and environment; science and technology; the global economy; national and international governance; and future conflict.

The world in 2015 will be populated by some 7.2 billion people, up from 6.1 billion in the year 2000. The rate of world population growth, however, will have diminished from 1.7 percent annually in 1985, to 1.3 percent today, to approximately 1 percent in 2015.

More than 95 percent of the increase in world population will be found in developing countries, nearly all in rapidly expanding urban areas.

- India's population will grow from 900 million to more than 1.2 billion by 2015; Pakistan's probably will swell from 140 million now to about 195 million.
- Some countries in Africa with high rates of AIDS will experience reduced population growth or even declining populations despite relatively high birthrates. In South Africa, for example, the population is projected to drop from 43.4 million in 2000 to 38.7 million in 2015.

Russia and many post-Communist countries of Eastern Europe will have declining populations.

Movement of People

By 2015 more than half of the world's population will be urban. The number of people living in mega-cities—those containing more than 10 million inhabitants—will double to more than 400 million.

- Urbanization will provide many countries the opportunity to tap the information revolution and other technological advances.
- The explosive growth of cities in developing countries will test the capacity of governments to stimulate the investment required to generate jobs and to provide the services, infrastructure, and social supports necessary to sustain livable and stable environments.

Health

Disparities in health status between developed and developing countries—particularly the least developed countries—will persist and widen. In developed countries, major inroads against a variety of maladies will be achieved by 2015 as a result of generous health spending and major medical advances. The revolution in biotechnology holds the promise of even more dramatic improvements in health status. Noninfectious diseases will pose greater challenges to health in developed countries than will infectious diseases. Progress against infectious diseases, nevertheless, will encounter some setbacks as a result of growing microbial resistance to antibiotics and the accelerating pace of international movement of people and products that facilitate the spread of infectious diseases.

Developing countries, by contrast, are likely to experience a surge in both infectious and noninfectious diseases and in general will have inadequate health care capacities and spending.

- Tuberculosis, malaria, hepatitis, and particularly AIDS will continue to increase rapidly. AIDS and TB together are likely to account for the majority of deaths in most developing countries.
- AIDS will be a major problem not only in Africa but also in India, Southeast Asia, several countries formerly part of the Soviet Union, and possibly China.
- AIDS will reduce economic growth by up to 1 percent of GDP per year and consume more than 50 percent of health budgets in the hardest-hit countries.
- AIDS and such associated diseases as TB will have a destructive impact on families and society. In some African countries, average lifespans will be reduced by as much as 30 to 40 years, generating more than 40 million orphans and contributing to poverty, crime, and instability.
- AIDS, other diseases, and health problems will hurt prospects for transition to democratic regimes as they undermine civil society, hamper the evolution of sound political and economic institutions, and intensify the struggle for power and resources.

Natural Resources and Environment

Food

Driven by advances in agricultural technologies, world food grain production and stocks in 2015 will be adequate to meet the needs of a growing world population. Despite the overall adequacy of food, problems of distribution and availability will remain.

- The number of chronically malnourished people in conflict-ridden Sub-Saharan Africa will increase by more than 20 percent over the next 15 years.
- Donors will become more reluctant to provide relief when they believe their aid will become embroiled in military conflict.

Water

By 2015 nearly half the world's population—more than 3 billion people—will live in countries that are "water-stressed"—having less than 1,700 cubic meters of water per capita per year—mostly in Africa, the Middle East, South Asia, and northern China.

- Turkey is building new dams and irrigation projects on the Tigris and Euphrates Rivers, which will affect water flows into Syria and Iraq—two countries that will experience considerable population growth.
- Egypt is proceeding with a major diversion of water from the Nile, which flows from Ethiopia and Sudan, both of which will want to draw more water from the Nile for their own development by 2015. Water-sharing arrangements are likely to become more contentious.

Water shortages occurring in combination with other sources of tension—such as in the Middle East—will be the most worrisome.

- Per capita decline in water availability over the next 25 years looks something like this: Israel, 33 percent; Jordan, 75 percent; Iran, 50 percent; Saudi Arabia, 67 percent; Egypt, 40 percent; Ethiopia/Rwanda, 60 percent; and South Africa, 55 percent.

Energy

The global economy will continue to become more energy efficient through 2015.

Asia will drive the expansion in energy demand, replacing North America as the leading energy consumption region and accounting for more than half of the world's total increase in demand.

- China, and to a lesser extent India, will see especially dramatic increases in energy consumption.
- By 2015, only one-tenth of Persian Gulf oil will be directed to Western markets; three-quarters will go to Asia.

Meeting the increase in demand for energy will pose neither a major supply challenge nor lead to substantial price increases in real terms. Estimates of the world's total endowment of oil have steadily increased as technological progress in extracting oil from remote sources has enabled new discoveries and more efficient production. Recent estimates indicate that 80 percent of the world's available oil still remains in the ground, as does 95 percent of the world's natural gas.

Environment

Contemporary environmental problems will persist and in many instances grow over the next 15 years. With increasingly intensive land use, significant degradation of arable land will continue as will the loss of tropical forests. Given the promising global economic outlook, greenhouse gas emissions will increase substantially. The depletion of tropical forests and other species-rich habitats, such as wetlands and coral reefs, will exacerbate the historically large losses of biological species now occurring.

- Environmental issues will become mainstream issues in several countries, particularly in the developed world. The consensus on the need to deal with environmental issues will strengthen; however, progress in dealing with them will be uneven.

Science and Technology

The continuing diffusion of information technology and new applications in the biotechnology field will be of particular global significance.

Information Technology (IT)

Over the next 15 years, a wide range of developments will lead to many new IT-enabled devices and services. Rapid diffusion is likely because equipment costs will decrease at the same time that demand is increasing. Local-to-global net access holds the prospect of universal wireless connectivity via hand-held devices and large numbers of low-cost, low-altitude satellites. Satellite systems and services will develop in ways that increase performance and reduce costs.

Biotechnology

By 2015, the biotechnology revolution will be in full swing with major achievements in combating disease, increasing food production, reducing pollution, and enhancing the quality of life. Many of these developments, especially in the medical field, will remain costly through 2015 and will be available mainly in the West and to wealthy segments of other societies. Some biotechnologies will continue to be controversial for moral and religious reasons. Among the most significant developments by 2015 are:

- Genomic profiling—by decoding the genetic basis for pathology—will enable the medical community to move beyond the description of diseases to more effective mechanisms for diagnosis and treatment.

- Biomedical engineering, exploiting advances in biotechnology and "smart" materials, will produce new surgical procedures and systems, including better organic and artificial replacement parts for human beings, and the use of unspecialized human cells (stem cells) to augment or replace brain or body functions and structures. It also will spur development of sensor and neural prosthetics such as retinal implants for the eye, cochlear implants for the ear, or bypasses of spinal and other nerve damage.

- Therapy and drug developments will cure some enduring diseases and counter trends in antibiotic resistance. Deeper understanding of how particular diseases affect people with specific genetic characteristics will facilitate the development and prescription of custom drugs.

- Genetic modification—despite continuing technological and cultural barriers—will improve the engineering of organisms to increase food production and quality, broaden the scale of bio-manufacturing, and provide cures for certain genetic diseases. Cloning will be used for such applications as livestock production. Despite cultural and political concerns, the use of genetically modified crops has great potential to dramatically improve the nutrition and health of many of the world's poorest people.

Other Technologies

Breakthroughs in materials technology will generate widely available products that are smart, multifunctional, environmentally compatible, more survivable, and customizable. These products not only will contribute to the growing information and biotechnology revolutions but also will benefit manufacturing, logistics, and personal lifestyles. Materials with active capabilities will be used to combine sensing and actuation in response to environmental conditions.

Discoveries in nanotechnology will lead to unprecedented understanding and control over the fundamental building blocks of all physical things. Developments in this emerging field are likely to change the way almost everything—from vaccines to computers to automobile tires to objects not yet imagined—is designed and made. Self-assembled nanomaterials, such as semiconductor "quantum dots," could by 2015 revolutionize chemical labeling and enable rapid processing for drug discovery, blood content analysis, genetic analysis, and other biological applications.

The Global Economy

The global economy is well positioned to achieve a sustained period of dynamism through 2015. Global economic growth will return to the high levels reached in the 1960s and early 1970s, the final years of the post-World War II "long boom." Dynamism will be strongest among so-called "emerging markets", especially in the two Asian giants, China and India, but will be broadly based worldwide, including in both industrialized and many developing countries. The rising tide of the global economy will create many economic winners, but it will not lift all boats. The information revolution will make the persistence of poverty more visible, and regional differences will remain large.

The countries and regions most at risk of falling behind economically are those with endemic internal and/or regional conflicts and those that fail to diversify their economies. The economies of most states in Sub-Saharan Africa and the Middle East and some in Latin America will continue to suffer. A large segment of the Eurasian landmass extending from Central Asia through the Caucasus to parts of southeastern Europe faces dim economic prospects. Within countries, the gap in the standard of living also will increase. Even in rapidly growing countries, large regions will be left behind.

National and International Governance

The state will remain the single most important organizing unit of political, economic, and security affairs through 2015 but will confront fundamental tests of effective governance. The first will be to benefit from, while coping with, several facets of globalization. The second will be to deal with increasingly vocal and organized publics.

- The elements of globalization—greater and freer flow of information, capital, goods, services, people, and the diffusion of power to nonstate actors of all kinds—will challenge the authority of virtually all governments. At the same time, globalization will create demands for increased international cooperation on transnational issues.

Nonstate Actors

States will deal increasingly with private-sector organizations—both for-profit and nonprofit. These nonstate actors increasingly will gain resources and power over the next 15 years as a result of the ongoing liberalization of global finance and trade, as well as the opportunities afforded by information technology.

Over the next 15 years, transnational criminal organizations will become increasingly adept at exploiting the global diffusion of sophisticated information, financial, and transportation networks.

- Criminal organizations and networks based in North America, Western Europe, China, Colombia, Israel, Japan, Mexico, Nigeria, and Russia will expand the scale and scope of their activities. They will form loose alliances with one another, with smaller criminal entrepreneurs, and with insurgent movements for specific operations. They will corrupt leaders of unstable, economically fragile or failing states, insinuate themselves into troubled banks and businesses, and cooperate with insurgent political movements to control substantial geographic areas. Their income will come from narcotics trafficking; alien smuggling; trafficking in women and children; smuggling toxic materials, hazardous wastes, illicit arms, military technologies, and other contra-band; financial fraud; and racketeering.

- Repression by the state. States with slow economic growth, and/or where executive power is concentrated in an exclusionary political elite and the rule of law and civil or minority rights are weak, will be inclined to discriminate against communal minorities. Such conditions will foment ethnic tensions in Sub-Saharan Africa, Central and South Asia, and parts of the

Middle East, often in rapidly growing urban areas. Certain powerful states—such as Russia, China, Brazil and India—also are likely to repress politicized communal minorities.

Let me say a few words about the nature of future conflict.

The United States will maintain a strong technological edge in IT-driven "battlefield awareness" and in precision-guided weaponry in 2015. The United States will face three types of threats from adversaries:

- Asymmetric threats in which state and nonstate adversaries avoid direct engagements with the U.S. military but devise strategies, tactics, and weapons—some improved by "sidewise" technology—to minimize U.S. strengths and exploit perceived weaknesses;
- Strategic WMD threats, including nuclear missile threats, in which (barring significant political or economic changes), Russia, China, most likely North Korea, probably Iran, and possibly Iraq have the capability to strike the United States and the potential for unconventional delivery of WMD by both states or nonstate actors also will grow.
- Regional military threats in which a few countries maintain large military forces with a mix of Cold War and post-Cold War concepts and technologies.

The risk of war among developed countries will be low. The international community will continue, however, to face conflicts around the world, ranging from relatively frequent small-scale internal upheavals to less frequent regional inter-state wars. The potential for inter-state conflict will arise from rivalries in Asia, ranging from India-Pakistan to China-Taiwan, as well as among the antagonists in the Middle East. Their potential lethality will grow, driven by the availability of WMD, longer-range missile delivery systems and other technologies.

Internal conflicts stemming from religious, ethnic, economic or political disputes will remain at current levels or even increase in number. The United Nations and regional organizations will be called upon to manage such conflicts because major states—stressed by domestic concerns, perceived risk of failure, lack of political will, or tight resources—will minimize their direct involvement.

Internal Conflicts

Many internal conflicts, particularly those arising from communal disputes, will continue to be vicious, long-lasting and difficult to terminate—leaving bitter legacies in their wake.

- They frequently will spawn internal displacements, refugee flows, humanitarian emergencies, and other regionally destabilizing dislocations.
- If left to fester, internal conflicts will trigger spillover into inter-state conflicts as neighboring states move to exploit opportunities for gain or to limit the possibilities of damage to their national interests.
- Weak states will spawn recurrent internal conflicts, threatening the stability of a globalizing international system.

Internal conflicts stemming from state repression, religious and ethnic grievances, increasing migration pressures, and/or indigenous protest movements will occur most frequently in Sub-Saharan Africa, the Caucasus and Central Asia, and parts of south and southeast Asia, Central America and the Andean region.

The United Nations and several regional organizations will continue to be called upon to manage some internal conflicts because major states—stressed by domestic concerns, perceived risk of failure, lack of political will, or tight resources—will wish to minimize their direct involvement.

Meanwhile, states with poor governance; ethnic, cultural, or religious tensions; weak economies; and porous borders will be prime breeding grounds for terrorism. In such states, domestic groups will challenge the entrenched government, and transnational networks seeking safehavens.

So, what are the implications for the United States and the world? An integrated trend analysis suggests at least four related conclusions:

- First, national policies will matter. To prosper in the global economy of 2015, governments will have to invest more in technology, in public education, and in broader participation in government to include increasingly influential non-state actors. The extent to which governments around the world are doing these things today gives some indication of where they will be in 2015.

- Second, we will have to watch primitive as well as precision-guided weapons. The United States and other developed countries will be challenged in 2015 to lead the fast-paced technological revolution while, at the same time, maintaining military, diplomatic, and intelligence capabilities to deal with traditional problems and threats from low-technology countries and groups. The United States, as a global power, will have little choice but to engage leading actors and confront problems on both sides of the widening economic and digital divides in the world of 2015, when globalization's benefits will be far from global.

- Third, international or multilateral arrangements increasingly will be called upon in 2015 to deal with growing transnational problems from economic and financial volatility; to legal and illegal migration; to competition for scarce natural resources such as water; to humanitarian, refugee, and environmental crises; to terrorism, narcotrafficking, and weapons proliferation; and to both regional conflicts and cyber threats. And when international cooperation—or international governance—comes up short, the United States and other developed countries will have to broker solutions among a wide array of international players—including governments at all levels, multinational corporations, and nonprofit organizations.

- Fourth, and last, to deal with a transnational agenda and an interconnected world in 2015, governments will have to develop greater communication and collaboration between national security and domestic policy agencies, which, again, is why it is so

appropriate for me to be here today. Interagency cooperation will be essential to understanding transnational threats, including regional conflict, and to developing interdisciplinary strategies to counter them. Consequence management of a BW attack, for example, would require close coordination among a host of U.S. Government agencies, foreign governments, U.S. state and municipal governments, the military, the medical community, and the media.